Title: "13245, A Novel Human Myotonic Dystrophy Type Protein Kinase and Uses Therefor' Inventors: Rosana Kapeller-Libermann et al. U.S. Patent Appl. No.: No Yet Assigned Express Mail # EL916936451US Attorney Docket No. 10147-57U1 Cust # 570

	Exp	ress Mail # EL	916936451US	Attorney Doc	ket No. 10147-	-5701 Cust# 3	570
15 45	35 105	55 165	75	285	115 345	135 405	155 465
GGT	PCCA	L	N AAC	K AAG	R AGA	A GCC	CCG
AGCT	K AAA	A GCC	S AGC	A GCA	V GTA	L	S AGC
D GAT (GGG	D GAT	V GTG	S TCG	V GTG	L TTA	T ACA
L TTG (Q CAG	L TTA	H	PCCT	O CAG	A GCT	S AGC
P CCT I	F	I ATA	K AAG	Q CAG	V GTG	K AAG	R CGA
N AAT O	F	GGG	I ATT	L	E	K AAG	S
R CGG 7	L	E GAA	K AAG	E	A GCT	K AAG	L TTA
A GCG 0	N AAT	R CGA	M ATG	Q CAG	FTTT	M ATG	I ATA
GGA (L	S	L	L TTA	H	V GTG	N AAC
Y TAT (R AGG	L	A GCT	E	GGT	K AAA	R CGG
K AAA 1	S	P	PCCT	A GCT	C TGT	M ATG	E
F TTC A	A GCC	S TCT	Q CAG	I ATA	GGT	A GCT	E
K AAG 1	R	M ATG	S AGT	TACC	V GTA	Y TAT	EGAG
L ITG ?	S AGC	Q CAG	S TGC	D GAC	L	I ATC	F
M ATG I	A GCC	Q CAG	E	S	S AGT	D GAC	F
AG P	I ATT	Q CAA	E	Y TAT	R AGA		S TCA
9999,	P	TACT	F	K AAG	V GTC	T ACC	V GTT
CAGI	E	M ATG	L	R CGG	E GAA	A GCA	Q CAG
ວອລວະ	A GCT	F	V GTT	V GTC	F	K AAA	E
AGAG	A GCT	P	F	F TTT	D GAC	E	Q CAG

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Inventors: Rosana Kapeller-Libermann et al.
U.S. Patent Appl. No.: Not Yet Assigned
Express Mail # EL916936451US Attomey Docket No. 10147-5701 Cust # 570

175 525	195 585	215 645	235	2/25 59/2 2/25 2/25	275 825	295 885	315 945
E	E	M ATG	IATC	K AAA	D GAT	E	I ATT
EGAG	D GAT	CIG	Н	A GCC	999	Y TAT	N AAC
M ATG	L TTA	H CAT	G GGA	N AAT	N AAC	A GCC	N AAT
L	Q CAG	V GTT	TACA	V GTG	M ATG	I ATT	F
Y TAT	D GAC	S AGC	CGC	M ATG	V GTG	V GTG	TACC
L	E	H	DGAC	K AAG	T ACT	0 0	R AGA
H	Y TAT	V GTT	V GTT	N AAC	L	V GTG	A GCC
N AAT	R AGA	A GCT	L	S TCA	V GTG	S TCA	S
K AAA	N AAT	$_{ m ITG}$	I ATT	N AAT	E	W	TACC
D GAC	$_{ m ITG}$	I ATT	N AAC	M ATG	PCCT	W TGG	G GGA
Q CAG	$_{ m CTT}$	L CTG	E GAG	K AAA	A GCT	D GAC	E GAG
FTT	S TCA	E GAG	P	A GCG	M ATG	C TGT	A GCA
A GCC	L	A GCT	K AAG	A GCC	Y TAC	DGAC	F
Y TAT	L TTG	L	I ATC	S TCT	D GAT	L	P CCC
Q CAG	D GAC	Y TAC	D GAC	G GGA	P	9 9	S
L TTA	GGG	F	R CGA	F TTT	TACC	Y TAC	r Aga
Q CAA	G GGA	Q CAG	H CAT	D GAT	GGG	TACC	999
P	P	I ATA	V GTG	V GTG	I ATT	9	Y TAT
I ATC	CAG	L	Y TAC	$_{ m L}$	P	K AAA	I ATT
W TGG	$_{\mathtt{TAT}}^{\mathtt{Y}}$	N AAC	G GGA	K AAG	L	GGA	M ATG

Fig

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U.S. Patert Appl. No.: No Yet Assigned
Express Mail # EL916936451US Attorney Docket No. 10147-57UI Cust # 570

335 1005	355 1065	375 1125	5 5	3 / 25	2 2	10.10	
-		11	395 1185	415 1245	435 1305	455 1365	475 1425
L	C	F	S TCG	PCCG	V GTG	S AGC	L TTA
F	L	P	N AAT	L	V GTT	K AAA	R CGG
D GAC	GGT	P	K AAG	E	S	I ATC	TACC
S AGT	E	P	E	E	E	L	M ATG
S AGC	FTTT	S TCT	P	GGT	S	L	E
V GTG	K AAG	N AAC	E	S	R AGA	K AAA	Q CAG
K AAA	L	R	D GAT	F	GGT	K AAG	E
P	R AGA	I ATT	F	999	L	E	M ATG
D GAC	E	N AAC	N AAT	S TCA	I ATT	M ATG	K AAG
D GAT	K AAA	N AAC	S	CCC	999	S	H
P	Q CAG	W	TACC	S AGC	L	S AGC	$_{\rm TGT}^{\rm C}$
F	GGC	D GAC	D GAC	L	A GCA	TACT	K AAG
K AAA	C TGC	I ATT	D GAT	Q CAG	K AAG	K AAG	D GAC
$_{ m ITG}$	L	K AAA	D GAC	C	SAGC	A GCC	Q CAG
FTTT	L	S TCT	S TCT	P	Y TAC	PCCT	S
R	S AGC	TIC	K AAG	S	S TCG	S	D GAC
O CAG	Q CAA	TIC	L	S	FTT	D GAC	O CAA
F	I ATT	P	TACC	S TCA	999	$_{ m L}$	L CTA
N AAT	L	H	CCC	V GTT	V GTG	GGT	E GAG
M ATG	D GAT	C	V GTT	W	FTI	S TCG	K AAA

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and Burney Errors

Title: "13245, A Novel Human Myotonic Dystrophy Type Protein Kinase and Uses Therefor" Inventors: Rosana Kapeller-Libermann et al. U.S. Patent Appl. No.: Not Yet Assigned Express Mail # EL916396451US Attorney Docket No. 10147-57U1 Cust # 570

				4 / 0.5			
495 1485	515 1545	535 1605	555 1665	4/25 4/25 22 1/25 27 1/25	595 1785	615 1845	635 1905
A GCC	S AGT	A GCA	Q CAG	L	A GCT	D GAT	Q CAG
K AAG	C TGC	K AAA	EGAG	D GAT	L	k AAG	Q CAG
CIG	E GAA	D GAC	K AAA	EGAG	R CGG	A GCT	E GAG
E GAG	TACA	D GAT	I ATC	E	S TCT	K AAG	A GCT
V GTG	I ATC	E	E GAA	$_{ m ITG}$	E	$_{ m ITG}$	N AAT
E	Y	O CAG	Q CAA	Q CAG	R AGA	L	I ATC
K AAG	TACC	S TCC	CIC	N AAT	$_{ m CTG}$	K AAA	K AAG
Q CAG	A GCT	V GTG	K AAG	M ATG	E	H	E
S AGT	$_{ m CTT}$	E	R CGG	M ATG	S TCT	Q CAG	$_{ m L}$
$_{ m CTT}$	D GAC	M AIG	S AGC	$_{ m ITG}$	E	$^{\mathrm{C}}$	K AAA
V GTG	Q CAG	R CGG	Q CAG	R AGG	Y TAC	E	A GCG
A GCT	EGAG	A GCA	E	M ATG	L	T ACA	Y TAT
E GAG	L	Q CAA	R AGA	GAA	D GAT	A GCG	E GAA
V GTG	L	E GAG	I	E	S AGT	K AAA	GGA
E GAG	S	L TTG	D GAT	V GTG	R CGG	R CGG	V GTG
S TCA	R AGA	S AGT	H	Q CAA	R AGA	K AAG	E
V GTG	Q CAG	R CGA	L	A GCT	R AGA	F	PCCT
r Aga	T ACT	K AAG	L	Q CAG	A GCA	E	K AAG
R CGG	E GAG	L TTA	Q CAG	Y TAC	S TCA	E	GGG
H	S TCT	S AGC	L CTG	E GAG	V GTC	A GCT	O CAA

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U.S. Patent Appl. No.: Not Yet Assigned
Express Mail # EL916936451US Attorney Docket No. 10147-57U1 Cust # 570

	, Die	press 171411 // 224		- /		J. 01 0	
655 1965	675 2025	695 2085	715 2145	5/25 5022 5022	755 2265	775	795 2385
R AGG	V GTG	E	M ATG	H CAC	D GAC	H CAC	A GCT
EGAG	L CTG	M ATG	o CAG	Q CAG	$_{ m TTG}$	R AGA	N AAT
A GCC	K AAG	TACC	O CAG	A GCC	V GTG	Q CAG	I ATC
R CGA	K AAG	E GAG	I ATC	S TCA	K AAA	M ATG	M ATG
EGAG	r Aga	L CTA	Q CAG	V GIC	I ATT	M ATG	A GCG
K AAG	I ATC	R AGA	OCAA	O	K AAG	N AAC	K AAG
A GCA	999	K AAG	S	A GCC	E GAA	E GAG	Q CAG
A GCT	E GAA	V GTA	K AAA	EGAG	E GAG	L	E
K AAG	S TCT	K AAG	TACA	R CGG	Y TAT	T ACA	SAGC
E	S TCT	N AAC	Q CAG	H	H CAC	E GAG	L
L	D GAT	EGAG	IATC	K AAA	Q CAG	K AAG	I ATT
K AAA	E GAG	L CTG	D GAC	EGAG	EGAG	D GAC	K AAA
EGAG	R CGA	S	D GAT	E	K AAA	A GCT	9 9
Q CAA	N AAC	H CAT	K AAG	L	Q CAG	L	K AAG
L	Q CAG	RCGC	L	E GAG	K AAA	D GAC	E
EGAG	L	R CGC	R AGA	L	L	K AAA	H CAT
Q CAG	K AAG	E	N AAC	I ATT	H	K AAG	A GCC
I ATT	E	EGAG	E	K AAA	V GTG	I ATA	EGAG
K AAA	CIG	A GCT	R AGA	D GAT	E GAA	Q CAG	E
L	EGAG	E	R	A GCT	L CTA	N AAT	E

Fig. 1E

Title: "13245, A Novel Human Myotonic Dystrophy Type Protein Kinase and Uses Therefor" Inventors: Rosana Rapeller-Libermann et al. U.S. Patent Appl. No.: Nor Yet Assigned Express Mail # EL916936451US Attorney Docket No. 10147-5701 Cust # 570

	Ex	press Mail # El	L916936451US	Attorney Do	cket No. 10147	7-57U1 Cust#	570
815 2445	835 2505	855 2565	875 2625	6/25 802 802 802 802	915 2745	935	955 2865
K AAA	I ATT	Q CAG	N AAT	K AAA	Q CAG	TACA	R AGA
N AAT	M ATG	A GCC	K AAG	Q CAG	S TCA	K AAG	H CAT
A GCC	EGAG	E GAG	D GAC	EGAG	E	A GCG	A GCA
E GAA	E	$_{ m TTG}$	S AGT	E	R CGC	Q CAG	T ACG
S	Q CAA	K AAG	H CAC	H	E	R	$_{ m L}$
L	A GCC	GGG	D GAC	EGAG	Q CAG	L	A GCA
E GAA	K AAG	A GCT	Q CAA	L	L	Q CAG	Q CAG
V GTG	M ATG	Q CAG	H	S AGT	S	S AGC	I ATC
I ATT	N AAC	T ACA	S AGC	V GTC	CIC	EGAG	E GAG
R AGG	R AGG	E	I ATC	E GAG	Q CAG	L	E GAG
O CAG	O CAA	L	K AAG	R	L	A GCC	E
E GAA	TACC	Y TAC	E	$_{ m L}$	E GAG	A GCG	A GCT
L	F	F	L	R AGA	TACA	R CGG	E GAA
S FCC	L	K AAA	Q CAG	TACA	CIC	A GCA	A GCA
R AGA	S AGT	Q CAG	E	EGAG	Q CAG	A GCT	T ACA
I ATC	S AGC	Q CAA	E GAG	$_{ m L}$	R	Q CAG	T ACC
K AAG	N AAT	R AGG	L	E	K AAG	L	E GAG
S	A GCA	L	K AAA	$_{ m L}$	CTC	A GCC	E GAA
D GAT	A GCA	E GAA	R CGA	L	E GAG	TACA	$_{ m L}$
M ATG	L	S TCT	N AAC	R	L	$_{ m ITG}$	E GAG

CULTO HONDOH

	LAP	1033 14441 11 1212	,10,50 .51 00				
975 2925	995 2985	1015 3045	1035 3105	1055/2 3165/2	1075 3225	1095 3285	1115 3345
L	Y TAC	S AGT	K AAG	$_{ m TTG}$	V GTC	DGAC	$_{\rm GTG}^{\rm V}$
D GAC	F	R CGA	O CAG	D GAT	S AGC	L	V GTG
TACA	N AAC	L	S AGC	M ATG	R AGG	M ATG	Q CAG
I ATC	Q CAA	Q CAA	TACC	V GTC	W TGG	R AGA	R
V GTA	N AAC	V GTA	L	Q CAG	A GCC	Q CAG	S TCT
TACT	N AAC	I ATT	Q CAG	E GAA	EGAG	$_{ m CTG}$	E
$_{\mathrm{TGT}}^{\mathrm{c}}$	L	E GAG	M ATG	E GAG	W TGG	EGAG	T ACC
S AGC	E GAA	D GAC	E	$_{ m L}$	Q CAG	R CGA	I ATC
N AAC	A GCT	N AAC	R CGA	M ATG	R CGG	V GTT	R
R	N AAC	A GCC	E	T	E GAG	R CGG	o CAG
L	D GAC	999	TACG	C TGC	K AAA	C TGT	D GAT
A GCT	E GAG	S TCT	IATC	T ACG	E	E GAG	A GCC
D GAT	TACC	A GCT	E GAG	T ACC	L	F TTT	R AGA
F	L CTG	E GAG	R	K AAG	L	Q CAG	A GCG
K AAA	Q CAG	D GAT	CGC	L	E GAG	8 FCC	R AGG
CGC	N AAC	CIC	CIC	A GCT	D GAT	K AAA	S AGC
Q CAG	L CTA	Q CAA	H CAT	EGAG	N AAC	E	O CAG
I ATC	Q CAG	K AAA	D GAC	M ATG	L CTA	D GAT	K AAA
E	E GAG	S	V GTG	TACG	A GCC		
D GAT	E GAG	$_{ m TTG}$	E GAA	Q CAA	E GAG	L	T ACC

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10.10	10.10	10.10	10.10	8 / 25	10.10	10.10	10.10
1135 3405	1155 3465	1175 3525	1195 3585	1215 3645	1235 3705	1255 3765	1275 3825
EGAG	A GCT	K AAA	H	T ACA	K AAG	K AAA	A GCT
K AAA	H CAT	L	N AAT	K AAG	E GAA	gcc gcc	P
L	K AAG	E GAG	K AAA	L	H	O CAA	D GAC
A GCT	K AAG	R CGA	Q CAG	L	STCT	L	E
O CAG	E	E GAA	LCIG	D GAT	Y TAT	F	K AAA
Q	$_{ m L}$	TACT	DGAC	A GCT	L	D GAT	R CGG
L	D GAC	E	MATG	R CGG	V GTT	I ATT	R CGA
A GCT	N AAT	L	CAG	D GAT	Q CAG	CIC	S AGT
CIC	CIC	K AAG	Q CAG	L	I ATT	K AAA	F
I ATT	K AAG	O CAG	Q CAG	A GCT	N AAC	TACC	L TTA
EGAG	D GAC	O CAG	L TTA	E GAA	E	Q CAA	GGT
A GCT	S TCT	L TTA	K AAA	Q CAA	L	O CAA	K AAG
K AAG	CIC	S AGC	A GCC	L CTG	Q CAG	STCT	K AAA
H	S AGC	R CGA	Q CAA	G GGA	Y TAT	I ATT	K AAG
EGAG	E GAG	A GCC	E	Q CAA	E GAG	TACT	K AAA
K AAG	A GCC	N AAT	E	TACT	I TIG	9	A GCT
V GTG	K AAG	M ATG	L	CIG	D GAC	E GAA	PCCT
A GCA	L	E GAA	L	R	S AGT	M ATG	O CAA
L CTG	K AAG	L	R AGG	F	R AGA	K AAA	DGAC
EGAG	O CAG	M ATG	Q CAG	I ATT	E	V GTG	M ATG

Fig. 1

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1295 3885	1315 3945	1335 4005	1355 4065	1375 4125 52/6	1395 4185	1415 4245	1435 4305
K AAA	A GCC	TACC	A GCC	F	L CTG	A GCA	A GCC
EGAG	S	A GCC	S AGT	E	GGA	Q CAG	P CCA
K AAG	R	P	CCC	EGAG	V GTA	R	L
E	L	TACG	Q CAG	P	N AAC	GGA	C TGC
CTG	E	S	H	TACT	F	F	T ACG
A GCC	IATC	P	EGAG	S TCA	R	H	S
L	R	H	P	S	H	V GTG	C TGC
K AAG	TACC	P	S	E	P	TACC	K AAG
L CTG	K AAG	H	R CGG	K AAG	I ATT	D GAT	P CCC
E	Q CAG	D GAC	V GTG	R AGA	N AAT	L CIG	H
N AAT	L	TACG	I ATC	R	H	င TGT	C
Y TAC	A GCC	A GCA	A GCC	S AGC	H CAC	V GTG	M ATG
Q CAG	E	K AAA	S	S	M ATG	A GCT	V GTG
L CTG	E	CGC	M ATG	P	CGC	C TGT	Q CAG
P	L CIA	H	A GCC	P	E GAA	K AAG	C TGT
V GTT	E GAG	A GCC	I	A GCC	K AAG	T ACA	E GAA
o CAG	A GCA	A GCT	Q CAG	L	L	A GCC	L
T ACA	C TGT	E GAA	Q CAG	L	R	R CGA	C TGT
P	R CGC	E GAG	R AGG	SAGC	R	MATG	K AAA
L TTA	A GCT	R	A GCG	M ATG	S AGT	N AAC	S

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	Expr	ess Mail # EL9	16936451US	Attorney Dock	et No. 10147-3	/UI Cust#3	70
1455 4365	1475 4425	1495 4485	1515 4545	1535 01 4 605 52	1555 4665	1575 4725	1595 4785
K AAA	W	V GTC	PCCG	GGT	L	PCCC	$_{ m ITG}$
D GAC	GGG	I ATT	R AGG	V GTT	L	$_{ m CTG}$	V GTC
R	E	Y TAC	Q CAG	A GCC	K AAA	TACG	N AAT
C	L	K AAG	G GGA	GGT	A GCT	C	$_{ m L}$
F	H CAC	R AGG	A GCT	H	D GAT	N AAC	A GCC
A GCC	$_{ m ITG}$	D GAC	E	I ATT	A GCT	M ATG	Y TAC
E GAG	S AGC	W	R AGA	S TCT	E GAA	D GAC	L
TACC	S AGC	990	A GCC	V GTA	A GCA	L CIA	
F	S AGC	o Caa	E	D GAT	K AAA	R CGT	E GAA
H	CCC	Q CAG	N AAT	GGG	E GAA	D GAC	E
TACA	E	GGA	D GAC	D GAC	A GCA	D GAT	T ACC
A GCC	K AAG	R CGA	Y TAT	P	K AAA	GGT	9 9
Y TAT	TACC	K AAA	I ATT	L	A GCC	E GAA	V GTG
E GAA	Q CAG	N AAC	L	C TGC	T ACA	L CIG	$_{ m ITG}$
A GCT	CIC	N AAT	V	$_{ m CTG}$	N AAT	K AAA	V GTG
PCCT	G GGT	R AGG	K AAA	EGAG	A GCA	L	V GTG
$_{ m ITG}$	PCCA	P	s TCA	F	L	L	Q CAG
999	S	V GTG	G GGA	E GAA	E GAA	S	
သ ညီ	N AAC	K AAG	E	E GAA	S	N AAC	S AGT
TACC	M ATG	M ATG	L	V GTG	A GCT	GGA	F

1615 4845	1635 4905	1655 4965	1675 5025	11/25 5 6 8 9 T	1715 5145	1735 5205
K AAG	V GTG	CCC		CIC	F	Y
I ATC	D GAC	S TCA	NAAC	N AAC	H CAC	Q CAG
I ATT	V GTG	I ATC	EGAG	E GAA	I ATC	K AAG
Y TAT	CIT	D GAC	I ATT	N AAC	C TGT	M ATG
I ATT	C TGT	P CCC	K AAG	Y TAC	S AGC	D GAC
Q CAA	L	Q CAG	g GGC	R CGC	C TGC	I ATC
F	A GCA	A GCC	A GCA	L	PCCC	E GAA
V GTC	R CGG	PCCT	g GGG	I ATT	E	Y
A GCA	E	L	F	V GTC	S TCA	F
GGA	E	H	$_{ m ITG}$	v GTC	T	K AAA
I ATT	G GGA	S	H	K AAA	E	N AAT
GGA	A GCA	Q CAG	ာ Tgc	S AGC	I ATA	TACC
P CCA	I ATA	A GCC	ი მმშ	PCCC	E	GGA
V GTC	M ATG	L	K AAG	M ATG	K AAA	I ATT
H CAT	L	S	V GIC	A GCC	R CGG	L
TACC	L CIA	Q CAG	A GCT	A GCA	I ATC	I ATC
L CTA	K AAG	K AAA	E GAA	C TGT	C TGC	S AGT
S	E	V GTG	F	I ATC	$^{ m Y}$	Y TAC
N AAC	L	K AAA	I ATT	ပ္ခဋ	K AAA	N AAT
K AAA	D GAC	K AAG	N AAC	CIC	S AGC	TACC

IUUI7DIB IUUSUI

Fig. 1

AAG

1755 5265

A A GCC GCC

A GCT

	Liqu	000 IVIAN # 223	10,500,0100	· Milotiley Does			•
1775 5325	1795 5385	1815 5445	1835 5505	12/25 5995 2205 1	1875 5625	1895 5685	1915 5745
EGAG	RCGC	$_{ m L}$		S	K AAG	SAGC	S
E GAG	S AGC	Y TAT	A GCA	I ATT	သည္။	R	A GCC
R CGA	R	P	S TCA	A GCC	ာ Tgc	S	V GTG
Q CAG	R AGA	E GAA	S	P	I ATT	TACC	R CGC
ი იი	G GGA	R AGA	RCGC	9	V GTC	S	K AAG
A GCA	Y TAC	Y TAC	A GCA	L	R AGG	P	T ACC
S AGC	S	A GCC	Q CAG	Y TAC	$_{ m ITA}$	9	I ATC
N AAC	D GAT	F	I ATC	CGC	K AAA	R	H CAC
∨ GTG	V GTG	A GCC	EGAG	P	D GAT	H	E GAG
Q CAG	$^{\mathrm{F}}$	$_{ m ITG}$	I ATT	N AAC	Q CAG	H CAC	N AAC
V GTG	V GTG	PCCT	V GTA	P	Y TAC	E GAA	Y
I ATC	G GGA	L TTA	E	I ATC	S TCA	TACT	T ACG
S TCA	F	R CGC	CIC	D GAC	S	9	P CCC
V GTC	E GAA	S AGT	S TCA	L	A GCG	S	PCCA
PCCT	H	™ M HGG	N AAC	Y TAC	$_{ m ITG}$	E	უ ეტ
$^{ m F}$	F	K AAG	F	A GCG	Y TAC	K AAG	R CGA
S AGC	C	CIC	H	R CGA	I ATT	∨ GTG	K AAG
N AAC	L	D GAT	TACC	A GCC	A GCG	L	N AAC
S	$_{ m ITG}$	D GAC	V GTG	P	G GGA	N AAC	CCC
S	Y TAC	T ACA	F	T ACC	S TCA	G GGA	s AGC

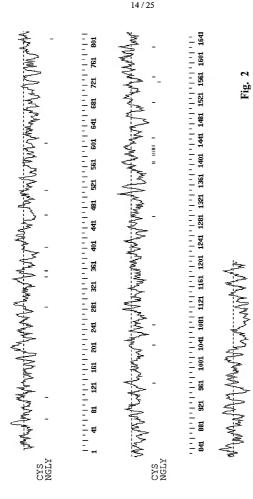
TODAYELD LICENSE

Title: "13245, A Novel Human Myotonic Dystrophy Type Protein Kinase and Uses Therefor" Inventors: Rosana Kapeller-Libermann et al.
U.S. Patent Appl. No.: Not Yet Assigned
Express Mail # EL916396451US Attomey Docket No. 10147-57UI Cust # 570

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1935 5805	1955 5865	1975 5925	1995 5985	2015 6045	2035 6105	2053
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P	L	R AGG	S	T ACC	I ATC	Y TAT CCACC SCTTC AACACA
TACA	CCC	999	L	V GIC	R AGG	D GAT CCAGC GAAAG GACCA AATGA
s AGC	R	CCC	PCCG	TACT	$_{ m CTG}$	T ACA AGAGC ATCAG SCAAG
PCCA	9 9	S	TACC	N AAC	V GTC	R AGA CTGCA AGAAA ACAGG
EGAG	PCCT	R	R AGG	V GTT	S TCA	L CTG AAGGC ATCTZ AAGGZ
R CGA	S	E GAG	V GTG	T ACG	W	V GTT SCTTZ SCTCZ CTTGZ
PCCG	K AAG	R AGA	A GCC	F	N AAC	S TCT ATGGG AAAAG AAAAG
H	D GAC	R CGG	GGA	V GTT	A GCT	K AAG AAAAJ FTGTZ FTGTZ
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E	E	M ATG	R CGG	S AGT	DGAC	o CAG TAGACI TGACI GCCGP
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P	R	9	R AGG	GGG	K AAG	I ATC GTGAC AGTGA TCCCT
A GCG	g GGG	P CCC	S AGC	R AGA	K AAA	N G E I R Q Q V E K S V L R T D Y C * AAT GGA GAA ATC CGG CAG GTT GAA AAG TCT GTT CTG AGA ACA GAT TAT TGC TGA SCAGAGTTCATGTGACTTCTAGACGTGGTGACTTAAAAAATGGCCTTAAGGCTGCAGAGCCAGCC
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S AGC	CGC	K AAG	D GAC	K AAG	W TGG	N AAT GCA(AAA(GAA/ CCA(

Fig. 11

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	ASRASRLNLF	ASRASRINLF					KHVSNFVRKY	ECSOPALMKM KHVSSFVOKY												YLMEEYQPGG	YLVMEYQPGG			
		PPEASASEPI					ECSOPALMKI	ECSOPALMKM						VQVVREKAIG	VQVVREKATG					QYAFQDKNHL	QYAFQDKNNL			
1	MLKFKYGARN	MLKFKYGVRN				,,	ILDALFVLFE	MLDALFALFE					101	SLVGCGHFAE	SLVGCGHFAE				151	RSTSPWIPQL	RSTSPWIPQL			
	13245	AAC72823	AAC27933	P49025	014578	_	13245	AAC72823	AAC27933	P49025	014578		1(13245	AAC72823	AAC27933	P49025	014578	H	13245	AAC72823	AAC27933	P49025	014578

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DIKPENILVD	DINFENTELL				VMNGDGKGTY	VMNEDRRGTY						FLKFPDDPKV	FLKFPDDPKV					SPPFFVPTLK	SPPFVPTLK	PFVPTLK		
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	YSKALGILGR					EMTRLHRRVS	EMTRLHRRVS	EMTRLHRRVS	EMTRLHRRVS				LEQARMEVSQ	LEQARMEVSQ	LEQARMEVSQ	LEQARMEVSQ			LEEDLVSARR	LEEDLVSARR	LEEDLVSARR	LEEDLVSARR	
	GEELPFVGFS	GEELPFVGFS				SQDKCHKMEQ	SQDKCHKMEQ	SQDKCHKMEQ	LLGEEAMMEQ				ITECSSLKRS	ITECSSLKRS	ITECSSLKRS	ITECSSLKRS			VEEMRLMMNQ	VEEMRLMMNQ	VEEMRLMMNQ	VEEMRLMMNQ	
401	PCQLSPSGFS	VCQLSPSGFS			451	LLIKSKELQD	LLIKSKELQD	LLIKSKELQD	Μ			501	SILEQDLAIY	SLLEQDLATY	SILEQDLATY	SLLEQDLATY		551	EIKEQEYQAQ	EIKEQEYQAQ	EIKEQEYQAQ	EIKEQEYQAQ	
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LKAKDQGKPE MKAKDQGKPE MKAKDQGKPE	MKAKDQGKPE	AKERAE	NIRQAKERAE NIRQAKERAE			ERRENRLKDD ERRENRLKDD		ERRENRLKDU		QHYEEKIKVL	QHYEEKIKVL	QHYEEKIKVL	QHYEEKIKVL	$\dots\dots VL$
601 RKATECQHKL RKANECQHKL RKANECQHKL	RKANECOHKL	651	ASTEATELLO ASTEATELLO	National Section	701	ENKVKRLETM ENKVKRLETM		ENKVKRLETM	751	HLEVHLKQKE	HLEVHLKQKE	HLEVHLKQKE	HLEVHLKQKE	
60 13245 AAC72823 AAC27933	P49025 Q14578	69 13245	AAC72823 AAC27933	014578	7	13245 AAC72823	AAC27933	P49025 014578	7	13245	AAC72823	AAC27933	P49025	014578

ORNMKAQEEM	QRNMKAQEEM QRNMKAQEEM	006	NRLLELETRL	SRLLELETRL	SRILELETRL	SKLLELETKL	NRLLELETRL	950	ALESQLRQAK	ALESQLRQAK	ALESQLRQAK	ALESQLRQAK	ALESQLRQAK	1000	LEEQLNQLTE	LEEQLNQLTE	LEEQLNQLTE	LEEQLNQLTE	LEEQLNQLTE
KLAANSSLFT	KLAANSSLFT KLAANSSLFT		KISHQDHSDK	KISHQDHSDK	KISHQDHSDK	KISHQUHSUK	KISHQDHSDK		QLTALQAARA	QLTALQAARA	QLTALQAARA	QLTALQAARA	QLTALQAARA		LRNSCTVITD	LRNSCIVITD	LRNSCIVITD	LRNSCTVITD	LRNSCIVITD
ORIVELSEAN	QRIVELSEAN QRIVELSEAN		ONRKLEEQLE	ONRKLEEQLE	QNRKLEEQLE	ONKKLEEQLE	QNRKLEEQLE		LQLSLQERES	LQLSLQERES	LQLSLQERES	LQLSLQERES	LQLSLQERES		RDEIQRKFDA	RDEIQRKFDA	RDEIQRKFDA	RDEIQRKFDA	RDEIQRKFDA
AMDSKIRSLE	AMDSKIRSLE AMDSKIRSLE		LETQAGKLEA	LETQAGKLEA	LETQAGKLEA	LETQAGKLEA	LETQAGKLEA		KLELKROLTE	KLELKROLTE	KLELKROLTE	KLELKRQLTE	KLELKRQLTE			EEEIQALTAH	EEEIQALTAH	EEEIQALTAH	EEEIQALTAH
ILSEQRAMIN	ILSEQKAMIN ILSEQKAMIN	51	ISELRQQKFY	ISELRQQKFY	ISELRQQKFY	ISELRQQKFY	ISELRQQKFY	01	REVSLEHEEQ	REVSLEHEEQ	REVSLEHEEQ	REVSLEHEEQ	REVSLEHEEQ	51	TELEETTAEA	TELEETTAEA	TELEETTAEA	TELEETTAEA	TELEETTAEA
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ENIQVLYSHE ENIQVLYSHE

LOQOMDLOKN HIFRLTOGLO EALDRADLLK TERSDLEYOL

TERSDLEYQL ENIQVLYSHE

LQQQMDLQKN HIFRLTQGLQ EALDRADLLK

HIFRLTQGLQ HIFRLTQGLQ HIFRLTQGLQ

LQQQMDLQKN LQQQMDLQKN

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TERSDLEYQL TERSDLEYQL

EALDRADLLK EALDRADLLK EALDRADLLK

	ALPTQVPLQY	\dots VPLQY	VPLQY	\dots VPLQY	\dots VPLQY	1350	TDHPHPSTPA	TDHPHPSTPA	TDHPHPSTPA	TDHPHPSTPA	TDHPHPSTPA	1400	FSRRLKERMH	FSRRLKERMH	FSRRLKERMH	FSRLKERMH	FSRRLKERMH	
	KVKMEGTISQ QTKLIDFLQA KMDQPAKKKK GLFSRRKEDP ALPTQVPLQY	KVKMEGIISQ QIKLIDFLQA KMDQPAKKKK VPLQY	KVKMEGIISQ QIKLIDFLQA KMDQPAKKKK	KVKMEGTISQ QTKLIDFLQA KMDQPAKKKK	KVKMEGTISQ QTKLIDFLQA KMDQPAKKKKVPLQY		NELKLALEKE KARCAELEEA LQKTRIELRS AREEAAHRKA TDHPHPSTPA	KARCAELEEA LOKTRIELRS AREEAAHRKA	KARCAELEEA LOKTRIELRS AREEAAHRKA TDHPHPSTPA	NELKLALEKE KARCAELEEA LOKTRIELRS AREEAAHRKA TDHPHPSTPA	NELKLALEKE KARCAELEEA LQKTRIELRS AREEAAHRKA TDHPHPSTPA		TARQQIAMSA IVRSPEHQPS AMSLLAPPSS RRKESSTPEE	RRKESSTPEE	RRKESSTPEE	RRKESSTPEE	RRKESSTPEE	
	KMDQPAKKKK	KMDQPAKKKK	KMDQPAKKKK	KMDQPAKKKK	KMDQPAKKKK		LOKTRIELRS	LOKTRIELRS	LOKTRIELRS	LOKTRIELRS	LQKTRIELRS		AMSLLAPPSS	AMSLLAPPSS	AMSLLAPPSS	AMSLLAPPSS	AMSLLAPPSS	
	QTKLIDFLQA	QTKLIDFLQA	QTKLIDFLQA	QTKLIDFLQA	QTKLIDFLQA		KARCAELEEA	KARCAELEEA	KARCAELEEA	KARCAELEEA	KARCAELEEA		IVRSPEHQPS	TAROOIAMSA IVRSPEHQPS	TAROOIAMSA IVRSPEHQPS	TAROOIAMSA IVRSPEHQPS	IVRSPEHQPS	
1	KVKMEGTISQ	KVKMEGTISQ	KVKMEGTISQ	KVKMEGTISQ	KVKMEGTISQ	01		NELKLALEKE	NELKLALEKE	NELKLALEKE	NELKLALEKE	51	TARQQIAMSA	TAROGIAMSA	TAROOIAMSA	TAROOIAMSA	TARQQIAMSA	
1001	13245	AAC72823	AAC27933	P49025	014578	1301	13245	AAC72823	AAC27933	P49025	014578	1351	13245	AAC72823	AAC27933	P49025	014578	

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CHPKCSTCLP CHPKCSTCLP	1500 WMKVPRNNKR WMKVPRNNKR WMKVPRNNKR	1550 DGDVSIHGAV DGDVSIHGAV DGDVSIHGAV DGDVSIHGAV	1600 PDKQRWVTAL PDKQRWVTAL PDKQRWVTAL
HNIPHRENVG INWRATKCAV CLDTVHFGRQ ASKCLECQVM CHPKCSTCLP HNIPHRENVG INWRATKCAV CLDTVHFGRQ ASKCLECQVM CHPKCSTCLP	1500 EPSSSLHLEG WMKVPRNNKR EPGSSLHLEG WMKVPRNNKR EPGSSLHLEG WMKVPRNNKR EPGSSLHLEG WMKVPRNNKR	DNEAREAGOR PVEEFELCLP DNEAREAGOR PVEEFELCLP DNEAREAGOR PVEEFELCLP DNEAREAGOR PVEEFELCLP DNEAREAGOR PVEEFELCLP	RTLYLLAPSF RTLYLLAPSF RTLYLLAPSF RTLYLLAPSF
CLDTVHFGRQ CLDTVHFGRQ	KMNSPGLQTK KMNSPGLQSK KMNSPGLQSK KMNSPGLQSK KMNSPGLQSK	DNEAREAGOR DNEAREAGOR DNEAREAGOR DNEAREAGOR	SHPHTTCWPG SHPHTTCWPG SHPHTTCWPG SHPHTTCWPG
LNMRATKCAV LNMRATKCAV	THFTEAFCRD THFTEAFCRD THFTEAFCRD THFTEAFCRD	VLEGSKVLIY VLEGSKVLIY VLEGSKVLIY VLEGSKVLIY	1 GASELANTAK A GASELANTAK ADVPYILKME GASELANTAK ADVPYILKME GASELANTAK ADVPYILKME GASELANTAK ADVPYILKME
HNI PHRENVG HNI PHRENVG	51 ATCGLPAEYA ATCGLPAEYA ATCGLPAEYA ATCGLPAEYA	01 • GQQGWDRKYI • GQQGWDRKYI • GQQGWDRKYI • GQQGWDRKYI • GQQGWDRKYI	1551 5 GASELANTAK 3 GASELANTAK 5 GASELANTAK 5 GASELANTAK 8 GASELANTAK
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CHPKCSTCLP CHPKCSTCLP

LNMRATKCAV CLDTVHFGRQ ASKCLECQVM CHPKCSTCLP

CLDTVHFGRQ ASKCLECQVM CLDTVHFGRQ ASKCLECQVM

LNMRATKCAV LNMRATKCAV LNMRATKCAV

HNIPHRFNVG HNIPHRFNVG HNIPHRFNVG HNIPHRFNVG

13245 AAC72823 AAC27933

GEERALCLVD

KDLEKLLMIA

IGAVFQIYII

LKNSLTHVPG

TEEGLYALNV

014578

1750

	GLCICAAMPS	SICICAAMPS	SICICAAMPS	SICICAAMPS	GLCICAAMPS	1800	NKFYEIDMKQ	NKFYEIDMKQ	NKFYEIDMKQ	NKFYEIDMKQ	NKFYEIDMKQ	
	13245 VKKVKQSLAQ SHLPAQPDIS PNIFEAVKGC HLFGAGKIEN GLCICAAMPS	VKKVKQSLAQ SHLPAQPDVS PNIFEAVKGC HLFAAGKIEN SLCICAAMPS	VKKVKQSLAQ SHLPAQPDVS PNIFEAVKGC HLFAAGKIEN SLCICAAMPS	VKKVKQSLAQ SHLPAQPDVS PNIFEAVKGC HLFAAGKIEN SLCICAAMPS	VKKVKQSLAQ SHLPAQPDIS PNIFEAVKGC HLFGAGKIEN GLCICAAMPS		13245 KVVILRYNEN LSKYCIRKEI ETSEPCSCIH FINYSILIGT NKFYEIDMKQ	KVVILRYNDN LSKYCIRKEI ETSEPCSCIH FTNYSILIGT NKFYEIDMKQ	KVVILRYNDN LSKYCIRKEI ETSEPCSCIH FTNYSILIGT NKFYEIDMKQ	KVVILRYNDN LSKYCIRKEI ETSEPCSCIH FTNYSILIGT NKFYEIDMKQ	KVVILRYNEN LSKYCIRKEI ETSEPCSCIH FTNYSILIGT NKFYEIDMKQ	
	PNIFEAVKGC	PNIFEAVKGC	PNIFEAVKGC	PNIFEAVKGC	PNIFEAVKGC		ETSEPCSCIH	ETSEPCSCIH	ETSEPCSCIH	ETSEPCSCIH	ETSEPCSCIH	
	SHLPAQPDIS	SHLPAQPDVS	SHLPAQPDVS	SHLPAQPDVS	SHLPAQPDIS		LSKYCIRKEI	LSKYCIRKEI	LSKYCIRKEI	LSKYCIRKEI	LSKYCIRKEI	
TO / T	VKKVKQSLAQ	VKKVKQSLAQ	VKKVKQSLAQ	VKKVKQSLAQ	VKKVKQSLAQ	1751	KVVILRYNEN	KVVILRYNDN	KVVILRYNDN	KVVILRYNDN	KVVILRYNEN	
1	13245	AAC72823	AAC27933	P49025	014578	17	13245	AAC72823	AAC27933	P49025	014578	

GEERALCIVD GEERALCLVD GEERALCLVD GEERALCIVD KDLEKLLMIA KDLEKLLMIA KDLEKLLMIA KDLEKLLMIA IGAVFQIYII IGAVFQIYII IGAVFQIYII IGAVFQIYII LKNSLTHVPG LKNSLTHIPG LKNSLTHIPG LKNSLTHIPG TEEGLYALNV TEEGLYALNV TEEGLYALNV TEEGLYALNV 1651 13245 AAC72823 AAC27933 P49025

PFSDQVVLVG PFSDOVVLVG PFSDQVVLVG PFSDQVVLVG PFSDQVVLVG DDRLDMNCTL DDRLDMNCTL DDRLDMNCTL DDRLDMNCTL DDRLDMNCTL LGNSLLKLEG LGNSLLKLEG LGNSLLKLEG LGNSLLKLEG LGNSLLKLEG REKAEADAKL EKAEADAKL REKAEADAKL REKAEADAKL REKAEADAKL ESVVAGGRVS ESVVAGGRVS ESVVAGGRVS ESVVAGGRVS 1601 AAC72823 AAC27933 014578 13245 P49025

TOUR YELD

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PLAFAYREPY LEVTHFNSLE VIEIQARSSA

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PLAFAYREPY LFVTHFNSLE

RIDDLKWSRL

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EYLLCFHEFG EYLLCFHEFG SYLLCFHEFG EYLLCFHEFG EYLLCFHEFG

VOVNSAGORE VQANSAGQRE

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VIEIQARSSL VIEIQARSSL VIEIQARSSL VIEIQARSSA	1950 KGNLVKESGT KGNLVKESGT KGNLVKESGT KGNLVKESGT	2000 HPREPSTPHR HPREPSTPHR HPREPSTPHR HPREPSTPHR
	PNPRYLGPAI SSGAIYLASS YQDKLRVICC KGNLVKESGT PNPRYLGPAI SSGAIYLASS YQDKLRVICC KGNLVKESGT PNPRYLGPAI SSGAIYLASS YQDKLRVICC KGNLVKESGT PNPRYLGPAI SSGAIYLASS YQDKLRVICC KGNLVKESGT PNPRYLGPAI SSGAIYLASS YQDKLRVICC KGNLVKESGT	1 EHHRGPSTSR SSPNKRGPPT YNEHITKRVA SSPAPPEGPS HPREPSTPHR EQHRVPSTSR SSPNKRGPPT YNEHITKRVA SSPAPPEGPS HPREPSTPHR EQHRVPSTSR SSPNKRGPPT YNEHITKRVA SSPAPPEGPS HPREPSTPHR EQHRVPSTSR SSPNKRGPPT YNEHITKRVA SSPAPPEGPS HPREPSTPHR EHHRGPSTSR SSPNKRGPPT YNEHITKRVA SSPAPPEGPS HPREPSTPHR
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VEVDSYGRRS RIDDLKWSRL PLAFAYREPY LFVTHENSLE VFVDSYGRRS RIDDLKWSRL PLAFAYREPY LFVTHENSLE VFVDSYGRRS RIDDLKWSRL PLAFAYREPY LEVIHFNSLE VFVDSYGRRS RIDDLKWSRL PLAFAYREPY LFVTHFNSLE	PNPRYLGPAI PNPRYLGPAI PNPRYLGPAI PNPRYLGPAI	SSPNKKGPPT SSPNKRGPPT SSPNKRGPPT SSPNKKGPPT
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FORJOL

2050	LFEDSSRGRL	LFEDSSRGRL	LFEDSSRGRL	LFEDSSRGRL	LFEDSSRGRL	2100	LPANWSVLRI	: : : : : : : : : : : : : : : : : : : :										
	STRRERSPGR LFEDSSRGRL	STRRERSPGR	STRRERSPGR .	STRRERSPGR	STRRERSPGR		13245 PAGAVRIPLS QVNKGRGQSA SQVFIVNTVI YYDWNKKLDN LPANWSVLRI	:										
	YR EGRTEL RRDKSPGRPL EREKSPGRML	EREKSPGRML	EREKSPGRML	RRDKSPGRPL EREKSPGRML	RRDKSPGRPL EREKSPGRML		SQVFTVNTVT	PAGAVRIPLS QVNKVWDQSS V	vv	v	v		21	U	•			
	RRDKSPGRPL	RRDKSPGRPL EREKSPGRML	RRDKSPGRPL	RRDKSPGRPL	RRDKSPGRPL		QVNKGRGQSA	QVNKVWDQSS	PAGAVRTPLS QVNKVWDQSS	PAGAVRIPLS QVNKVWDQSS	QVNKVWDQSS		2121	VEKSVLRTDY				
2001	YR EGRTEL	YRDREGRIEL	YRDREGRTEL	YRDREGRIEL	YR EGRTEL	5.1	PAGAVRIPLS	PAGAVRTPLS	PAGAVRTPLS	PAGAVRTPLS	PAGAVRTPLS		2101	13245 IQLNGEIRQQ VEKSVLRTDY C				
	13245	AAC72823	AAC27933	P49025	014578	2051	13245	AAC72823	AAC27933	P49025	014578			13245	AAC72823	AAC27933	P49025	014578